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(54) Title: IDENTIFICATION, QUANTIFICATION, AND CHARACTERIZATION OF T CELLS AND T CELL ANTIGENS

(57) Abstract: Methods of quantifying and/or characterizing antigen-specific T cell populations, identifying T cell antigens and epitopes, and preparing targeted pharmaceutical compositions by (i) introducing a peptide into an antigen-presenting cell (APC) expressing a fusion protein comprising a major histocompatibility complex portion and a reporter peptide portion such that a complex forms between the fusion protein and the peptide and the peptide is displayed by the APC and (ii) contacting the APC with a population of cells, such that T cells in the population of cells that react with the peptide detectably internalize the complex; novel APCs useful in such methods; and related therapeutic and diagnostic methods.